Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAE S. KIM

Appeal No. 1998-2619
Application 08/526,828

ON BRIEF

Before PAK, TIMM and DELMENDO, Administrative Patent Judges.

PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1 through 14 which are all of the claims pending in the above-identified application.

Claims 1 and 10 are representative of the subject matter on appeal and read as follows:

1. A method for adjusting gas flow in a flow-flange reactor to achieve a desired thickness profile, comprising the steps of:

establishing a target thickness profile;

determining a first set of optimum input-flow ratios in response to said target thickness profile, based upon a first plurality of sample thickness profiles and a first plurality of sets of sample input-flow ratios, each of said sample thickness profiles corresponding to one set of said first plurality of sets of sample input-flow ratios;

calculating from said input-flow ratios a gas flow for each of a plurality of gases supplied to said reactor; and

open-loop control adjusting gas flow to said reactor for each of said plurality of gases to produce said calculated gas flow.

10. A method for determining an input-flow ratio in a flow-flange reactor to achieve a desired thickness profile on a digital computer, comprising the steps of:

establishing a target thickness profile and storing data representing said target thickness profile in memory;

calculating a first set of optimum input-flow ratios in response to said target thickness profile, said input-flow ratios being usable to calculate each of a plurality of gas flows to said reactor for producing said desired thickness profile in an open-loop control process, said input-flow ratios being based upon data stored in said memory, said data representing a first plurality of sample thickness profiles and a first plurality of sets of sample input-flow ratios, each of said sample thickness profiles corresponding to one set of said first plurality of sets of sample input-flow

ratios; and

storing data representing said first set of optimum input-flow ratios in said memory.

The prior art references relied upon by the examiner are:

Suzuki et al. (Suzuki)	4,579,623	Apr. 1, 1986
Manada et al. (Manada)	5,463,977	Nov. 7, 1995

Technical Update Book for the GS/3000 Series (Technical Update), by EMC RE TurboDisc, December 1991.

Claims 1 through 14 stand rejected under 35 U.S.C. § 103 as unpatentable over Suzuki in view of Technical Update and Manada.[1]

We reverse.

Under 35 U.S.C. § 103, "the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a prima facie case of unpatentability." In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). In other words, the examiner must provide a sufficient

[1] The examiner has withdrawn the Section 112 rejection set forth in the final Office action dated May 5, 1997 (Paper No. 8). See Answer, page 3.

factual basis to support his Section 103 rejection. In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 177-78 (CCPA 1967).

To carry his burden of proof, the examiner relies on the combined disclosures of Suzuki, Technical Update and Manada. However, for the reasons well articulated by appellant at pages 5 and 6 of the Brief, we find that the examiner has not provided sufficient factual evidence to demonstrate that the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103. We only wish to emphasize that the examiner has not adequately explained how and why one of ordinary skill in the art would have been led to employ the closed-loop control process variables for epitaxially growing a chemical-compound crystal described in Manada in the pre-programmed control process for plasma etching and deposition for semi-conductor integrated circuits described in Suzuki (e.g., Figure 7) to arrive at the claimed open-loop control process involving specific process control variables.

Accordingly, we reverse the examiner's decision rejecting all the appealed claims under 35 U.S.C. § 103.

REVERSED

Chung K. Pak Administrative Patent Judge	)	
Catherine Timm Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
Romulo H. Delmendo Administrative Patent Judge	)	

CKP:cam

William B. Kempler
Texas Instruments Incorporated
P. O. Box 655474 M/S 219
Dallas, TX 75265